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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,201	12/05/2003	Thomas Beck	2002P06120WOUS	2440

7590 07/18/2005

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPT.
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER	
ANDERSON, MATTHEW A	
ART UNIT	**PAPER NUMBER**
1722	

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/729,201	BECK ET AL.	
	Examiner	Art Unit	
	Matthew A. Anderson	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/05/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The examiners notes the preliminary amendment of 12/05/2003. Claims 1-20 are acted upon below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 11, 14-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurz et al. (US 6,024,792).

Kurz et al. discloses a method of manufacturing monocrystalline structures on substrates. (abs) The method is an epitaxial one (col. 2 lines 1-10) which utilizes an energy source having a focal point at the surface to be melted. (col. 2 lines 45+) Laser, electronic and arc method such as Micro-TIG or plasma methods are suitable. The melted material solidifies into the monocrystalline structure. A feed material is supplied to the area to be melted and is incorporated into the monocrystalline structure of the substrate. Fig. 2 shows that the a substantially linear molten area is produced. The cross-section of the material in Fig. 2 passes through a linear structure that extend into the plane of the page. The power and thus the temperature of the beam is selected to ensure dendritic growth. The materials are metallic super-alloys.

Claim Rejections - 35 USC § 103

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 5-10, 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurz et al. as applied to claims 1-4, 11, 14-20 above, and further in view of Marcin Jr. et al. (US 6,103,402).

Kurz is described above.

Kurz does not detail changing the parameters of the laser beam during the process.

Marcin Jr. discloses methods of making crack free metallic articles. (abs) The method incorporates a filler material into a super-alloy by the application of a energy beam. In example 1, it is disclosed that a first spot power (and thus, spot temperature) and spot size were used followed by a second spot power and spot size. Also, a powder feed was used to supply a powder to the melted areas on the substrate.

It would have been obvious to one of ordinary skill in the art at the time of the present invention to combine the disclosures of Kurz with that of Marcin Jr. since both

deal with super-alloy monocrystalline deposition and Marcin Jr. adds a controlled melting and solidification which improves the product. Motivation is the suggested reduction of cracking in the product.

In respect to claims 5, 7, 8, it would have been obvious to one of ordinary skill in the art at the time of the present invention to change the spot size, the spot temperature (i.e. power), and to vary the material feed in terms of time and location since this is suggested by Marcin et al.

In respect to claims 9-10,12-13 example 1 suggests moving the spot over the substrate in a direction and to vary the spot size to cover the width of the area transversely in relation to the direction of movement.

In respect to claim 6, it would have been obvious to one of ordinary skill in the art at the time of the present invention to optimize the spot power and size since Marcin et al. disclose that these process parameters are effective to achieve the result of solidified monocrystal structures with a reduced incidence of cracking. This optimization would have been achieved with only routine experimentation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew A. Anderson whose telephone number is (571) 272-1459. The examiner can normally be reached on M-F, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on (571) 272-1439. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAA
July 9, 2005

ROBERT KUNEMUND
PRIMARY EXAMINER